

M A S L D R V K V L V L G D S SEQIDNO:2
 AGGGAAGGCAGTGGCAAG ATG GCG TCC CTG GAT CGG GTG AAG GTA CTG GTG TTG GGA GAC TCA SEQIDNO:1
 ↑SEQ ID NO:3→

G V G K S S L V H L L C Q N Q V L G N P 35
 GGT GTT GGG AAA TCT TCG TTA GTC CAT CTC CTA TGC CAA AAT CAA GTG CTG GGA AAT CCA 105

S W T V G C S V D V R V H D Y K E G T P 55
 TCA TGG ACT GTG GGC TGC TCA GTG GAT GTC AGA GTT CAT GAT TAC AAA GAA GGA ACC CCA 165

E E K T Y Y T E L W D V G G S V G S A S 75
 GAA GAG AAG ACC TAC TAC ATA GAA TTA TGG GAT GTT GGA GGC TCT GTG GGC AGT GCC AGC 225

S V K S T R A V F Y N S V N G I I F V H 95
 AGC GTG AAA AGC ACA AGA GCA GTA TTC TAC AAC TCC GTA AAT GGT ATT ATT TTC GTA CAC 285

D L T N K K S S Q N L R R W S L E A L N 115
 GAC TTA ACA AAT AAG AAG TCC TCC CAA AAC TTG CGT CGT TGG TCA TTG GAA GCT CTC AAC 345

R D L V P T G V L V T N G D Y D Q E Q F 135
 AGG GAT TTG GTG CCA ACT GGA GTC TTG GTG ACA AAT GGG GAT TAT GAT CAA GAA CAG TTT 405

A D N Q I P L L V I G T K L D Q I H E T 155
 GCT GAT AAC CAA ATA CCA CTG TTG GTA ATA GGG ACT AAA CTG GAC CAG ATT CAT GAA ACA 465

K R H E V L T R T A F L A E D F N P E E 175
 AAG CGC CAT GAA GTT TTA ACT AGG ACT GCT TTC CTG GCT GAG GAT TTC ATT CCA GAA GAA 525

I N L D C T N P R Y L A A G S S N A V K 195
 ATT ATT TTG GAC TGC ACA AAT CCA CGG TAC TTA GCT GCA GGT TCT TCC ATT GCT GTC AAG 585

L S R F F D K V I E K R Y F L R E G N Q 215
 CTC AGT AGG TTT TTT GAT AAG GTC ATA GAG AAG AGA TAC TTT TTA AGA GAA GGT ATT CAG 645

I P G F P D R K R F G A G T L K S L H Y 235
 ATT CCA GGC TTT CCT GAT CGG AAA AGA TTT GGG GCA GGA ACA TTA AAG AGC CTT CAT TAT 705

D * 237
 GAC TGA 711
 ←SEQ ID NO:3↑

ATTACACTCATCTTGGAGAGTGAGCAAGCAGTGGCAGTTTACAGCTCATCTGCTGTGTTCAATTATTACCAT
 CACAGCCTTTAACAAAATCATCTTAAATGCTACCCCTCAGCCTTACCCCTTAAATGGAAAAATGAAAGGAAAGTGACAA
 TACGGGAGGTCCAAACTTGTCCCTGTTCTGTGTGTCCTTACCTTCTGTCCCTGTGTATAGATTATGTAAGGCCTT
 GTGTAATATGAGATGTTGTCAAATGATGCAAGTAAATGAGCAATGACAGTGTACTGCAGAGAAAATTCTCTTGCCT
 AGAACTGGAGGGTTTTATGGGTCTGTAATTTCACACTCATGCTGAAGCTTAATTAGTACTTCATTTACGTAT
 CTCCATTGTTTACCTTCTTGAGGGGAACGGTCTTGTAAACCAGCCCTGAGTTGTCTACCCCAACATTCTCTGTCAATT
 TTCAAGATGCAAAATGGTGTATTAAATTGTCTCACCATTGTACACACAGGAATGCCATAATAATGCAACCCCTTGT
 CTCCCTCTCTCCTTGCAGTGGCTCAGTGACTGGAAGAGGGCGGACTAATAGCCAGAGTTAAATTATAAATACAAAT

TAATAATACATAGAGAACAGCAATACCAGAAAAAGAATTCTGGTAAATGATGTGAAAAATTGACAGCTCCCTCACT
CTTAAGGTTGCTGCTATATACAGTCTAGGTTCTGTTGGAAATAGGTAGGGTAAATCTAAGACCTGCACAAGGGCA
GTGAGAGACATTACAGCCTCCTCTATTTGTTTTAAGGAAAGTCAACTCCTGAAATGTCCCTAGCTATAATC
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CATGAATTATTGAAC

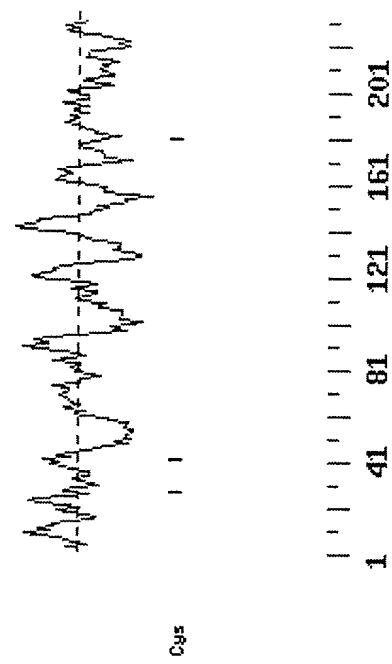


FIG. 2

*->GlgflkiflklglwnKEmRILiLGLDnAGKTTILykLklge.ivtt SEQ ID NO:4
47324 2 -----ASLDR---VKVLVLGDSVGKSSLVHLLCQNQvLGNP 35
+ +l + + +L+LG + GK+ + + L + + + + +
iPTiGFNvEtveykN.....ikFtvWDvGGQ.....esLRPlW
+ T+G v v + + +++++++ + WDvGG ++ ++ +s R +
47324 36 SWTVGCSV-DVRVHDykegtpeektYYIELWDVGGSvqgsassvKSTRAV- 83
rnYfpnTdavIfVVDSaDreRieeakeELhaLLneeeL.....
+ +++++IfV D ++ + + L + e + + + + + +
47324 84 --FYNSVNGIIFVHDLTNKK---SSQNLRRWSLEALNrdlvptgvlvtn 127
.....adApLLifANKQDlpgAmseaEi...reaLGhelkgskg
++ +++++ + PLL+ + K D + +E+ + + + L +
47324 128 gdydqeQfadNQIPLLVIGTKLDQIHETKRHEVltrTAFLAEDFNP-E-- 174
kvtl.e.gdRpWeiQgcsAvkGeGLyEGldwLsnnikkR<-*
++ l+ ++ R + ++Avk l + + +++++
47324 175 EINLdCtNPRYLAAGSSNAVK-----LSRFFDKVIEK 206

FIG. 3

*->KLVLiGDsGVGKSSlLiRFtdnkFveeYipTIGvDFytktvevD... SEQ ID NO:5
47324 8 KVLVLGDSVGKSSLVHLLCQNQVGNPSWTVGCSVDVRVHDYKegt 54
K++++GDsGVGKSSl++ +n+ T+G+ ++ + + + +
..GktvkLqIWDTAGQERFralrpa.....YYrgAqGfLLVYDITS
++ kt+ ++WD G ++ +a++ +++++ +Y +G++ V D T+
47324 55 peEKTYYIELWDVGG-----SVGSAssvkstravFYNSVNGIIFVHDLTN 99
rdSFenvkkWleeilr.had.....kdenvpivLVGNKc
++S +n+++W e l+++ + + + + + + + + + + + + + +
47324 100 KKSSQNLRRWSLEALNrdLPtgvlvtngdydqeQfADNQIPLLVIGTKL 149
DLeddedlelte.gqkRvVsteeGealAkelgA.....lpFmETSA
D + e++ +V t ++ 1A++++ + + + + + + + + + + +
47324 150 DQIH-----EtKR-HEVLTRTAF-LAEDFNPeelinldctnPRYLAAGS 190
KtntNVeeaFeelareilkkvsevnvnldqpakkkkskCcil<-*
+++ F+ +++++ + + + + + + + + + + + + + + + +
47324 191 SNAVKLRSRFFDKVIEKRYFLREGNQIPGFPD-RKRGAGTLK 231

FIG. 4

Query: 35 PSWTV-GCSVDVRVHDYKEGTPEEK -- YYIELWXXXXXXXXXXXXXTRAVFYNSVNGI 91
P+WT S D + Y TP Y+E +D R FY +++GI
Sbjct: 69 PTWTTPSSSEDSENYPYMRSTPTTNILYFVEFYDLNSDWRMCRQQ -- RESFYKNIDGI 125 SEQ ID
NO:6

Query: 92 IFVHDLTNKKSSQNLRRWSLEALNRLVPTGVLTNGDYDQEQQFADNQIPLLVIGTKLDQ 151
+ V+++ S +L W + L + + + + + P+LV+GT LD+
Sbjct: 126 VLVYNMELSSQDSLHDWLYDPLRQICKHRHLRI -----RSILKNHNAPILVVGTNL DK 179

Query: 152 IHETKRHEVLTRTAFLAEDFNPEEINLDCTNPRYLAAGSSNAVQLSRFFDKVIE-KRYF 209
+ L R +A N EE+ ++C +P+ S N KL F ++VIE K F
Sbjct: 180 L---MRRPLRRRGSTIAHQLNVEEMLVNCLDPQSVDKSRNQGKLYGFLNRVIEFKEQF 234

FIG. 5a

Query: 7 VKVILVLDGSVGKSSLVHLLCQNQVLGNP-SWTVG---CSVDVRVHDYKE 52
V++L+LGD GVGK+SL +L+ ++ P S TVG V VR+H+Y +
Sbjct: 12 VRILMLGDRGVGKTSLTNLMATTEITPTPDSRTVGEESWHVQVRLHEYSK 61 SEQ ID NO:7

FIG. 5b

Query: 121 TGVLVTNGD--YDQEQQFAD-NQIPLLVIGTKLDQIHETKRHEVL--TRTAFLAEDFNPEE 175
T L T+G +D E+F Q P+LV+GT KLD + E KRH + + +A+ EE
Sbjct: 19 TDNLGTDGHILFDMEFLGATQTPILVMGTKLDLLDE-KRHPKMGVKKPGGIADKCGAEE 77 SEQ ID
NO:8

Query: 176 INLDCTNPRYLAAGSSNAVQLSRFFDKVIEKRYFLR-----EGNQIPGFPDRKRGAG 228
I L+C N R LAAG+++AVKLSRFFD+VIE R LR + PDR+RFG
Sbjct: 78 IWLNCRNSRSLAAGTTDAVKLSRFFDRVIE NRKALRAALAFGVSSNAVSPPDRRRGPT 137

Query: 229 TLK 231
+ K
Sbjct: 138 SAK 140

FIG. 6

Query: 6 RVKVLVLGDSGVGKSSLVHLLCQNQVLGNPSWTVGCSVDVRVHDYKEGTPEEKYYIE 63
+V+VLV+GDSGVGK+SLVHL+ + + P T+GC+V V+ Y G+P + I+
Sbjct: 80 QVRVLVVGDSGVGKTSLVHLINKGSSI VRPPQTIGCTVGVKHITY--GSPASSSSSIQ 135 SEQ ID NO:9

FIG. 7

Query: 8 KVLVLGDSGVGKSSLVHLL--CQNQ-----VLGNPSWTVGCSVDVRVHDYKEGT 54
K++++GDSGVGK+SL++ L +N V+ + T+G +V+ T
Sbjct: 7 KIVIIGDSGVGKTSLLNKLRFTENSFTEEYDPTTRTVVDSYKSTIGVDFNVKTTIEVVDT 66 SEQ ID
NO:10

Query: 55 PEEKTYIYLWDXXXXXXXXXXXXXXTRAVFYNSVNGI IFVHDLTNKKSS-QNLRRWSLEA 113
+ K +++WD A +Y I V+D+ + +SS +N +W E
Sbjct: 67 -DGKNIKLQIWDTAGQERYRSMLTSMEA-YYRGAEADIIIVYDVDSSESSFENQTKWLKEI 124

Query: 114 LNRDLVPTGVLTNGDYDQEQQFADNQIPLLVIGTKLD-QI---HETKRHEVLTRTAFLAE 169
L +N E+ ++N +P++++G K D ++ E + + T A+
Sbjct: 125 LRH-----ASN-----EEASEN-VPIILVGNKADLEVPNPEEEKEEASTEEEAQ 170

Query: 170 DFNPEEINLDCTNPRYLAAGSSNAVKLSRFFDKVIEKRYFLREGNQIPGFPPDRKRF 225
F EE L P + + + F +++ R L++ +I D++++
Sbjct: 171 SF-AEEKGLGVV-PFIETSAKTTGTNVEEVFQELV--REILKKKEIQEKAQDQEKY 222

FIG. 8